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(54) Title: COMPACT DISC AUTHENTICATION SYSTEM AND METHOD

(57) Abstract: Disclosed is a compact disc (CD) authentication system and method, and an electronic commerce (EC) system and paying method. In the CD authentication system, a computer outputs authentication information stored on the CD, and an identification database managing unit compares the authentication information with the authentication information stored on the CD, and when they are identical, permits access to an EC site so that manual typing operation of needed information is reduced. In the CD EC system, the computer outputs authentication information stored on the CD to request for an EC, and an electronic gift certificate database managing unit stores money information per authentication information and outputs a business permission or prohibition message, and a shopping mall database managing unit provides the authentication information to the electronic gift certificate database managing unit to check the permission of the corresponding business, and when the business is permitted, computes and stores the money information on the corresponding commodity in response to request for a purchase, and permits a corresponding business according to the money information. Accordingly, the EC can be performed by installing a CD that has authentication information into a multimedia computer without installing additional device for the EC.

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Compact Disc Authentication System and Method

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The present invention relates to an authentication system and method using a compact disc (CD). More specifically, the present invention relates to an identification and electronic commerce system using a CD including authentication information and a paying method thereof.

(b) Description of the Related Art

Recently, as computer industry and its various facilities develop, trends to perform public or personal jobs using the computer increase. Accordingly, networks on which computers are interconnected in various manners develop, and thereby, users can handle their jobs by accessing other computers that are connected on the networks. Especially, as internet users greatly increase, the users can get or provide information by accessing free or charged servers connected on the internet.

However, when a person freely accesses a specific network using his personal computer or visits a particular site on the internet, it is necessary for the server to restrict the visits of unidentified visitors. For example, adult sites display on the first page a comment window that prohibits entrance of persons under age, however, this effort is only formal and cannot obtain forceful prohibition. Also, charged sites check whether or not a member accesses the corresponding site by an authentication process, which is troublesome to the member and personal information can be stolen to cause social problems.

Electronic commerce (EC) increases as the computers and various facilities develop.

Electronic commerce (EC) enables a buyer to buy goods at an internet virtual shopping mall site via a network such as the internet without visiting shops. The electronic commerce is not limited by business hours of a seller and reduces time and expenses that occur when the buyer moves to the shop.

Hence, the electronic commerce becomes to be an important commerce for netizens who frequently use the internet service.

FIG. 1 shows a block diagram of a conventional electronic commerce. When a buyer manipulates a personal computer 10 to send a buying intention to a merchant server 20 on the internet or a value added network (VAN), the merchant server 20 requests to an authentication center 30 an authentication of a paying method of the corresponding buyer, and a paying gate 40 refers to an authentication database that is provided from a banking agency that had issued the paying method, and then approves the electronic commerce.

To pay for the electronic commerce, electronic money for the electronic commerce is used as a paying method which is categorized into an integrated circuit (IC) card type electronic money and a network type electronic money. In the IC card type electronic money, information on the amount of the money is input to the IC chip that is attached on the card and can be refilled. In the network type electronic money, information on the amount of the money is stored in a hard disc of the buyer's computer.

To use the IC card type electronic money, the buyer should buy an additional IC card reader. In the event of the network type electronic money, since the information on the money is stored to the hard disc of the buyer's computer during a downloading of the information on the money, the buyer may feel uncomfortable and this method can cause security problems. For example, since the method to confirm a reference of a buyer depends on the buyer's individual number and password, the system is almost defenseless to those who would use the system by stealth.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an authentication system using a CD storing authentication information to authenticate access the network.

In one aspect of the present invention, a CD authentication system comprises a CD storing authentication information to access a specific site; a

computer reading the authentication information stored on the CD and requesting an authentication process and receiving an authority to access the specific site according to response signals; a database (DB) storing the authentication information on the CD; and a DB managing unit, when the authentication information is provided, referring to the DB and outputting an access permission or prohibition message to the specific site.

In another aspect of the present invention, a CD electronic commerce (EC) system comprises a CD storing authentication information; an electronic gift certificate database (DB) managing unit storing money information per authentication information that has permission of EC and outputting a business permission or prohibition message; and a shopping mall DB managing unit providing the authentication information to the electronic gift certificate database (DB) managing unit from the CD so as to check the permission of the corresponding business, and when the business is permitted, updating the money information per authentication information of the electronic gift certificate database managing unit by using the money information requested for the corresponding goods, and permitting a corresponding business according to the money information.

In a still further aspect of the present invention, a CD payment method comprises the steps of (a) permitting an access and providing information on the shopping mall in the cyber space when an access request to an electronic commerce (EC) occurs; (b) checking an occurrence of a request for a purchase of a commodity, and when no occurrence of the request, checking the termination of the shopping process; (c) checking whether or not the CD having the authentication information is inserted when there is an occurrence of the request in the step (b); and reading the authentication information when the CD is inserted; (d) comparing the read authentication information with the money information per authentication information stored in an electronic gift certificate database managing unit to check the normality, and when either of the two information is not normal, outputting a business prohibition message; and (e) permitting a business and updating the difference money between the recorded

money information and paid money information to the money information per authentication information, and going to the step (b).

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention, and, together with the description, serve to explain the principles of the invention:

FIG. 1 is a conventional EC system;

FIG. 2 is an authentication system using a CD according to a preferred embodiment of the present invention;

FIG. 3 is an EC system using a CD according to a preferred embodiment of the present invention;

FIG. 4 is a flow chart of an authentication method using a CD from a point of view of a personal computer user of FIG. 2 according to a preferred embodiment of the present invention;

FIG. 5 is a flow chart of an authentication method using a CD from a point of view of a identification database managing unit of FIG. 2 according to a preferred embodiment of the present invention;

FIG. 6 is a flow chart of a paying method for the EC system as shown in FIG. 3 according to a first preferred embodiment of the present invention;

FIG. 7 is a flow chart of a paying method for the EC system as shown in FIG. 3 according to a second preferred embodiment of the present invention; and

FIG. 8 is a detailed flow chart of an example of the EC using a CD that is an electronic gift certificate as shown in FIG. 6.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following detailed description, only the preferred embodiment of the invention has been shown and described, simply by way of illustration of the best mode contemplated by the inventor(s) of carrying out the invention. As will be realized, the invention is capable of modification in various obvious respects, all without departing from the invention. Accordingly, the drawings and

description are to be regarded as illustrative in nature, and not restrictive.

FIG. 2 is an authentication system using a CD according to a preferred embodiment of the present invention.

As shown in FIG. 2, the authentication system comprises a CD 10 that stores information on the authentication, a user computer 20 that reads information on the authentication from the CD 10 and outputs a request signal for identification, a network 30, a information inquiry database (DB) 40 that stores information on the authentication of issued CDs, and an identification DB managing unit 50 that checks information on the various authentication provided via the network 30 and outputs messages whether or not the user who utilizes the computer into which the CD is inserted is allowed and authenticates the identity of the CD user.

The CD 10 encodes and stores information on the authentication and key information to access a specific site using an encoding method.

After the CD 10 is inserted into a CD-ROM driver (not illustrated), the computer 20 decodes the encoded information on the authentication and performs a protocol conversion the decoded information into network instructions and provides the network information to the information inquiry database (DB) 40 via the network 30. Here, the protocol is a communication rule in a software manner according to data transfer on the network and includes the transmission control protocol/internet protocol (TCP/IP) and the internet work packet exchange/sequenced packet exchange (IPX/SPX) of the Novell company used on the NetWare network.

The network 30 connects a plurality of computers or other devices to communicate each other and is referred to as the local area network (LAN), wide area network (WAN), or internet.

The information inquiry database (DB) 40, storing information on the authentication of issued CD 10, comprises a main authentication information DB that stores encoded and stored main authentication information, and a sub authentication information DB that stores sub authentication information which is attached on a surface of the issued CD case as a printed type or a sticker

besides the main authentication information.

The reason for comprising the sub authentication information is for performing supplementary authentication function to the main authentication information and for smooth managing the CD issued from the side of identification system. For example, if the already issued CD is damaged, the user cannot access desired sites using the CD, and therefore, the authentication can be re-issued using the sub authentication information that is directly printed on the surface of the CD case or attached as a sticker.

The identification DB managing unit 50 checks whether the information on the authentication provided via the network 30 is identical with information on the authentication stored in the information inquiry database (DB) 40, and when they are found identical, outputs an access permission message to the user computer 20 via the network 30, and when not identical, outputs an access prohibition message to the computer 20.

FIG. 3 is an EC system using a CD according to a preferred embodiment of the present invention.

As shown in FIG. 3, the EC system according to a preferred embodiment of the present invention comprises a CD 100 that contains information on the authentication, a user computer 200 having multimedia functions, and an EC managing unit 300 that includes an electronic gift certificate DB managing unit 310 and a shopping mall DB managing unit 320.

The CD 100 includes information on the authentication. The information is issued by those who manage the EC managing unit 300, and the issued information is managed by the electronic gift certificate DB managing unit 310. At this time, the information on the authentication is stored in an area where user cannot access when a unique ID is issued for each CD that is the electronic gift certificate.

The user computer 200 receives the information on the authentication from the CD 100 to convert into network instructions, and outputs the network instructions to the EC managing unit 300 via the network. Currently used user computer 200 is equipped with multimedia functions, internet connection

functions, and CD-ROM driver.

The electronic gift certificate DB managing unit 310 is equipped with information on the money per information on the authentication to check permission of the EC. In detail, the electronic gift certificate DB managing unit 310 has information on the money per information on the authentication provided by those who manage the shopping mall DB managing unit 320. The information on the authentication is modified by those who manage the shopping mall DB managing unit 320, and the information on the money can be modified by those who manage the shopping mall DB managing unit 320. When a business is permitted, the information on the difference of money between the information on the set money and information on buying money is overwritten to the information on the set money, thereby, updating the information on the money per specific CD.

The shopping mall DB managing unit 320 receives information on the authentication provided via the user computer 200 and provides the information to the electronic gift certificate DB managing unit 310 to check a qualification of a buyer who wants the EC, and when he is qualified, permits a purchase of a corresponding goods, and provides corresponding information on the money to the electronic gift certificate DB managing unit 310.

A case where only the information on the authentication was contained in the CD has been discussed, however, when the CD is released, it is also possible that information on a certain amount of money is further stored in the CD and when a business occurs the information on the stored money is read and decreased as much as spent, and information on the money difference is updated to the information on the money per information on the authentication and concurrently stored on the CD. At this time, the CD and CD-ROM are both readable and writable.

The CD may further comprise an encryption processing function, electronic catalog function, automatic running function, internet connecting function, and shopping browsing function.

In more detail, the encryption processing function, when transferring the

information on the authentication and the password via the communication networks such as the internet, encrypts the information on the authentication and the password so as to prohibit violation of use of the electronic gift certificate.

15 The electronic catalog function configures various information on the EC goods with moving pictures, sounds, voices, photographs, and graphic displays so as to search the goods in off-line status, and when a buyer selects a desired product, the internet connection is automatically initiated so that the buyer can access the internet shopping mall with a single click of a mouse.

20 The automatic running function automatically performs the electronic catalog function in the event that the buyer inserts the CD into the CD-ROM driver.

The internet connecting function makes the buyer connect the internet shopping mall with a single click of the mouse.

25 The shopping browsing function searches the updated electronic catalog or other shopping malls' goods information in on-line status.

Since the CD has a great capacity to store data, other unmentioned functions can be added to the above-noted functions to increase feasibility of the EC.

30 The sub authentication information, that can be equipped by printing the sub authentication information on the CD or on the surface of the CD case, or as an attached sticker, prepares for the damage of the CD so as to manage the CD issued by the EC managing unit 300 and to smoothly re-issue the authentication information.

35 Operations of an identification system and EC system using a CD that stores the authentication information will now be described.

FIG. 4 is a flow chart of an authentication method using a CD from a point of view of a personal computer user of FIG. 2 according to a preferred embodiment of the present invention.

40 Referring to FIGs. 2 and 4, it is checked whether or not the CD 10 is inserted that stores the authentication information encoded by an encryption

method in step s110.

In the event that the CD 10 is inserted, the authentication information is read in step s120, and the authentication information is converted into network instructions and output to the identification DB managing unit 50 via the network 30 in step s130.

It is checked whether or not a response signal provided from the identification DB managing unit 50 is received in step s140, and when the response signal is received, it is checked whether or not the response signal is an adequate authentication information in step s150, and when the authentication information is checked to be inadequate, a message to indicate an inadequate authentication information is displayed in step s160. When the authentication information is checked to be adequate, a message to indicate an adequate authentication information is displayed in step s170.

After the step s170, it is checked whether or not a request signal for a site connection is provided by the buyer in step s180, and when not provided, it is checked whether or not the EC will be terminated, and when the buyer wants to terminate the EC, the EC is then terminated, and on the other hand, when not terminated, the step goes to step s180 in step s185. When the request signal for a site connection is provided by the buyer in step s180, the buyer is connected to the requested specific site in step s190.

FIG. 5 is a flow chart of an authentication method using a CD from a point of view of a identification database managing unit of FIG. 2.

Referring to FIGs. 2 and 5, it is checked whether or not the main authentication information that is transformed with respect to the protocol is provided from the user computer 20 via the network 30 in step s210. When not provided, the main authentication information is then referred to the main authentication information DB of information inquiry DB 40 in step s220, and it is checked whether or not the main authentication information is adequate in step s230. When inadequate, a message that access to the site is prohibited is output to the user computer 20 in step s240, and when adequate, a message that access to the site is allowed is output to the user computer 20 in step s250.

Subsequently, it is checked whether or not a request signal for site connection is provided from the user computer 20 in step s260, and when provided, the user computer is connected to the corresponding site in step s270.

As noted above, to permit the access to the sites, those who provide the specific sites issues the CD that has authentication information, a kind of a key information used to access the site. The managers make the authentication information of the issued CDs into database and manage the database, and prevent those who does not possess the CD issued by the service providers from accessing the site, thereby, protecting their site.

In the above, the service provider copies a plurality of CDs having authentication information, and give permission to those who possess the CD to access the site.

On the other hand, if individual information on each member is stored on a single CD, and an access to a site occurs using that CD, the service providing site can directly ask the buyer for the site to read the individual information on the member instead of the buyer's typing his individual information by himself, and the buyer only selects yes or no key, thereby, reducing typing manipulation. That is, the card provided by a credit card company can be replaced with the CD.

At this time, restrictions against revealing personal information must be made.

FIG. 6 is a flow chart of a paying method for the EC system as shown in FIG. 3 according to a first preferred embodiment of the present invention.

Referring to FIGs. 3 and 6, a buyer accesses the shopping mall DB managing unit 320 via an on-line function such as the internet, and the shopping mall DB managing unit 320 provides information on the corresponding shopping site such as electronic catalog including appearance, specification, price, and use of the goods to the user computer 200 to display on the monitor of the computer in step s110, and the buyer shops around in the virtual space in step s120.

It is checked whether or not the buyer has a request for buying a commodity in steps s130, and if not, termination of shopping is checked, and if

the buyer wants to terminate shopping, the process is stopped, and the step goes to the step s120 in other case in step s140.

If the buyer has a request for buying a commodity in step s130, it is checked whether or not the CD including information on the authentication and money is inserted into the user computer in step s150, and if inserted, the information on the authentication is read and converted into network instructions and the network instructions are provided to the shopping mall DB managing unit 320 in step s160.

When the buyer finds his desired commodity, he checks detailed specification, price, and manuals, and when he determines to buy that commodity, he clicks the corresponding icon of the commodity to forward an intention to buy that commodity to the shopping mall DB managing unit 320 via the internet.

The shopping mall DB managing unit 320 provides a request for buying the commodity and the authentication information to the electronic gift certificate DB managing unit 310, which then checks whether or not the authentication information in the step s160 is normal in step s170.

In more detail, the electronic gift certificate DB managing unit 310 compares the authentication information provided in response to the request by the buyer with the installed information on the money per authentication information to check the malfunction of the CD, and provides a message whether or not to issue an authentication information to the shopping mall DB managing unit 320 in response to the check result.

When the authentication information is bad in step s170, a business prohibition message is output in step s180 so that the CD 100 inserted into the user computer 200 cannot be used as a payment means.

When the authentication information is normal in step s170, the shopping mall DB managing unit 320 permits the corresponding EC in step s190, and the electronic gift certificate DB managing unit 310 stores the money difference between the paid money information and the recorded money information, and the step goes to the step s120 in step s195.

Furthermore, money information can be stored on the CD including the authentication information to be used as the electronic gift certificate.

The shopping mall DB managing unit provides the electronic catalog to the buyer via the internet. However, considering the high capacity of the CD, it is also possible that above mentioned electronic catalog information is stored on the CD so that the buyer previously searches desired commodities via the electronic catalog on the CD, and then provides the buying request to the shopping mall DB managing unit.

FIG. 7 is a flow chart of a paying method for the EC system as shown in FIG. 3 according to a second preferred embodiment of the present invention.

Referring to FIGs. 3 and 7, it is checked whether or not the CD storing the authentication information is inserted in step s210. When inserted, an electronic catalog function starts according to the electronic catalog function installed on the CD and displays information on the catalog of the shopping mall goods, and the buyer shops around in the virtual space provided by the electronic catalog in step s220.

It is checked whether or not the buyer requests a commodity in step s230, and if he does not, the termination of the shopping process is checked, and when the buyer wants to terminate the shopping process, the process is terminated, and on the other hand, the buyer does not want to, the process goes to the step s220, and the buyer continues to shop around in the virtual space provided by the electronic catalog in step s240.

If he does in step s230, he accesses the shopping mall DB managing unit 320 in step s250. The information on the desired commodity and authentication information stored on the CD are read and converted into the network instructions, which are then provided to the shopping mall DB managing unit 320 in step s260. The shopping mall DB managing unit 320 provides the commodity buying request and the authentication information to the electronic gift certificate DB managing unit 310, which then checks whether or not the information in the step s260 is normal or bad in step s270.

In more detail, the electronic gift certificate DB managing unit 310, in

response to the buying request, compares the stored money information per authentication information with the authentication information provided through the shopping mall DB managing unit 320 to check the status of the corresponding business, and provides the status of the authentication of the business to the shopping mall DB managing unit 320.

When the status of the authentication is bad in the step s270, a business prohibition message is output, and therefore, information that the CD 100 inserted into the user computer 200 cannot be used as a payment means is provided in step s280. On the other hand, when the status of the authentication is normal in the step s270, the shopping mall DB managing unit 320 permits a corresponding business in step s290, and the electronic gift certificate DB managing unit 310 stores the money difference between the payed money corresponding to the business and the stored money, and the process goes to the step s220 in step s295.

FIG. 8 is a detailed flow chart of an example of the EC using a CD.

Referring to FIGs. 3 and 8, when the CD that is the electronic gift certificate is inserted into the CD-ROM driver of the user computer in step s300, the user computer automatically accesses the on-line shopping mall in step s310, and the homepage of the corresponding shopping mall is displayed, and the buyer shops around in the displayed shopping mall and selects desired commodity in step s320. Or, when the CD is inserted into the CD-ROM driver of the user computer, the electronic catalog starts in the off-line status to display the commodities on the monitor screen in step s315, and the buyer shops around in the virtual shop and selects desired commodities. In the off-line status, the computer connects to the internet in step s330, and in the on-line status, information on the electronic gift certificate ID and selected commodities is transferred to a commodity information DB in the shopping mall host computer in step s340.

The shopping mall DB managing unit 320 receives information on the goods in stock from the commodity information DB and checks stock status of the corresponding commodities in step s350.

The shopping mall DB managing unit 320 receives information on the electronic gift certificate ID and left money from the user computer and compares the received information with an authentication information data DB in step s360, and when the comparison result is identical, a password is requested to the buyer in step s370, and when not identical, a business prohibition message is output to the user computer.

In response to the request for the password by the shopping mall DB managing unit 320, the user inputs the password in step s380, and the user computer encrypts the input password using an encryption method of a open key method in step s390 to provide to the shopping mall DB managing unit 320.

The shopping mall DB managing unit 320 compares the encrypted password with the password of the corresponding user stored in the electronic gift certificate DB managing unit in step s400, and when the comparison result is identical, the corresponding business is permitted in step s410.

The shopping mall DB managing unit 320 in the response of permission of the business reports the business permission to the user computer in step s420, and the user computer checks the commodity and left money and terminates the EC in step s430.

When the shopping mall DB managing unit 320 provides the information on the price of the buying commodity to the electronic gift certificate DB managing unit 310, which modifies the information on the left money of the corresponding commodity in step s440 and stores information on the modified left money to a business record file. At this time, the electronic gift certificate DB managing unit 310 stores the information on the corresponding electronic gift certificate ID, buying commodity, buying date, and other things to back up the executed business in step s450.

Furthermore, when the CD is readable and writable, the modified money information can be recorded on the CD so that the buyer possesses the information on the money difference as a backup file.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to

WHAT IS CLAIMED IS:

1. A compact disc (CD) authentication system, comprising:
 - a CD storing authentication information to access a specific site;
 - a computer reading the authentication information stored on the CD and
 - 5 requesting an authentication process and receiving an authority to access the specific site according to response signals;
 - a database (DB) storing the authentication information on the CD; and
 - a DB managing unit, when the authentication information is provided, referring to the DB and outputting an access permission or prohibition message
 - 10 to the specific site.
2. The system of claim 1, wherein the CD further comprises a supplementary authentication information of the authentication information on a surface of the CD or the CD case.
3. A compact disc (CD) electronic commerce (EC) system, comprising:
 - 15 a CD storing authentication information;
 - an electronic gift certificate database (DB) managing unit storing money information per authentication information that has permission of EC and outputting a business permission or prohibition message; and
 - a shopping mall DB managing unit providing the authentication
 - 20 information to the electronic gift certificate database (DB) managing unit from the CD so as to check the permission of the corresponding business, and when the business is permitted, updating the money information per authentication information of the electronic gift certificate database managing unit by using the money information requested for the corresponding goods, and permitting a
 - 25 corresponding business according to the money information.
4. The system of claim 3, wherein the CD further comprises an electronic catalog information on the EC goods.
5. The system of claim 4, wherein the electronic catalog information further comprises an automatic processing unit to automatically access the
- 30 shopping mall DB managing unit.
6. The system of claim 3, wherein the CD comprises a program to

connect to the shopping mall DB managing unit in on-line status.

7. The system of claim 3, wherein the CD further comprises a shopping web browser to transfer information on the commodity of the shopping mall DB managing unit.

8. The system of claim 3, wherein the CD further comprises an encryption processing unit to encrypt the authentication information using an encryption algorithm of an open key method.

9. The system of claim 3, wherein the CD further comprises information on the money encoded with an encryption method.

10. The system of claim 3, wherein the CD further comprises a supplementary authentication information of the authentication information on a surface of the CD or CD case.

11. In a method for authenticating a user having a compact disc (CD) comprising a CD that stores authentication information, a computer that converts the authentication information into network instructions and outputs the results, and an identification database (DB) managing unit that checks the authentication information provided on the network and outputs an access permission or prohibition message to a specific site, a CD authentication method, comprising the steps of:

(a) checking normality of the authentication information when the authentication information read from the CD is converted and provided;

(b) outputting an access prohibition message to the specific site when the authentication information is checked to be abnormal; and

(c) permitting an access to the specific site when the authentication information is checked to be normal.

12. The method of claim 10, wherein the step (c) further comprises the steps of:

(d) checking whether or not a request signal for site connection is provided; and

(e) waiting when the signal is not provided, and connecting a user computer with the requested site.

13. A compact disc (CD) payment method, comprising the steps of:

(a) permitting an access and providing information on the shopping mall in the cyber space when an access request to an electronic commerce (EC) occurs;

5 (b) checking an occurrence of a request for a purchase of a commodity, and when no occurrence of the request, checking the termination of the shopping process;

(c) checking whether or not the CD having the authentication information is inserted when there is an occurrence of the request in the step (b), and
10 reading the authentication information when the CD is inserted;

(d) comparing the read authentication information with the money information per authentication information stored in an electronic gift certificate database managing unit to check the normality, and when either of the two information is not normal, outputting a business prohibition message; and

15 (e) permitting a business and updating the difference money between the recorded money information and paid money information to the money information per authentication information, and going to the step (b).

14. The method of claim 13, wherein the step (a) comprises the step of manipulating a stored electronic catalog by an electronic catalog automatic
20 processing unit installed on the CD;

15. The method of claim 13, wherein the step (d) compares the read authentication information with the money information per authentication information installed in an electronic gift certificate database managing unit.

16. A compact disc (CD) payment method, comprising the steps of:

25 (a) checking an occurrence of a request for a purchase of goods, and when there is no request, checking the termination of the shopping process in the event of receiving shopping mall information by starting a stored electronic catalog function by an electronic catalog automatic processing unit stored in the CD;

30 (b) permitting an access to an shopping mall database managing unit and reading the authentication information stored in the CD when there is a

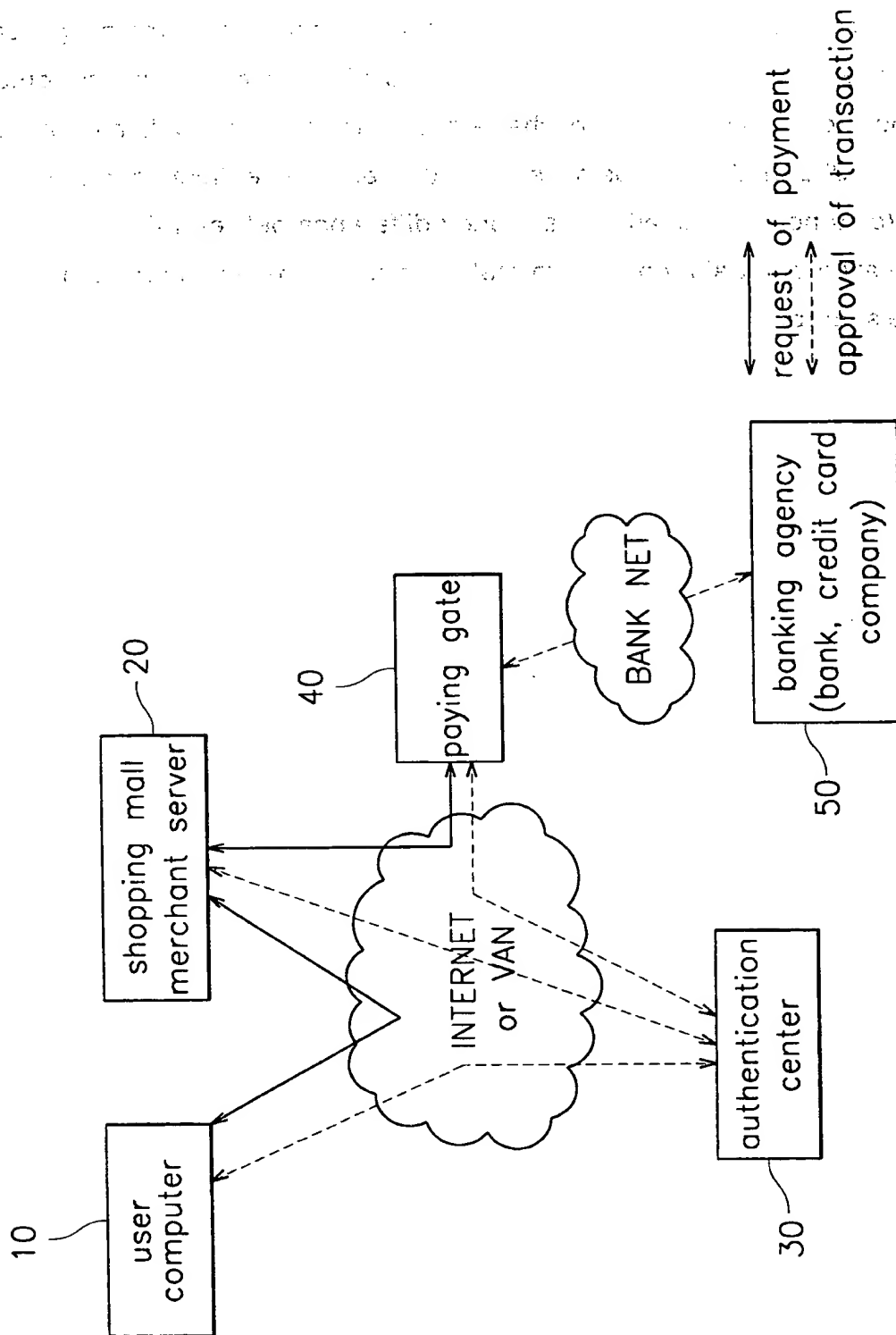
request in the step (a);

(c) comparing the read authentication information with the money information per authentication information stored in an electronic gift certificate database managing unit to check badness of the information, and outputting a
5 business prohibition message when either of the two information is bad; and

(d) permitting a business when the read authentication information in the step (c) is normal, updating the money difference between the recorded money information and paid money information to a new money information, and going to the step (b).

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FIG. 1



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FIG.2

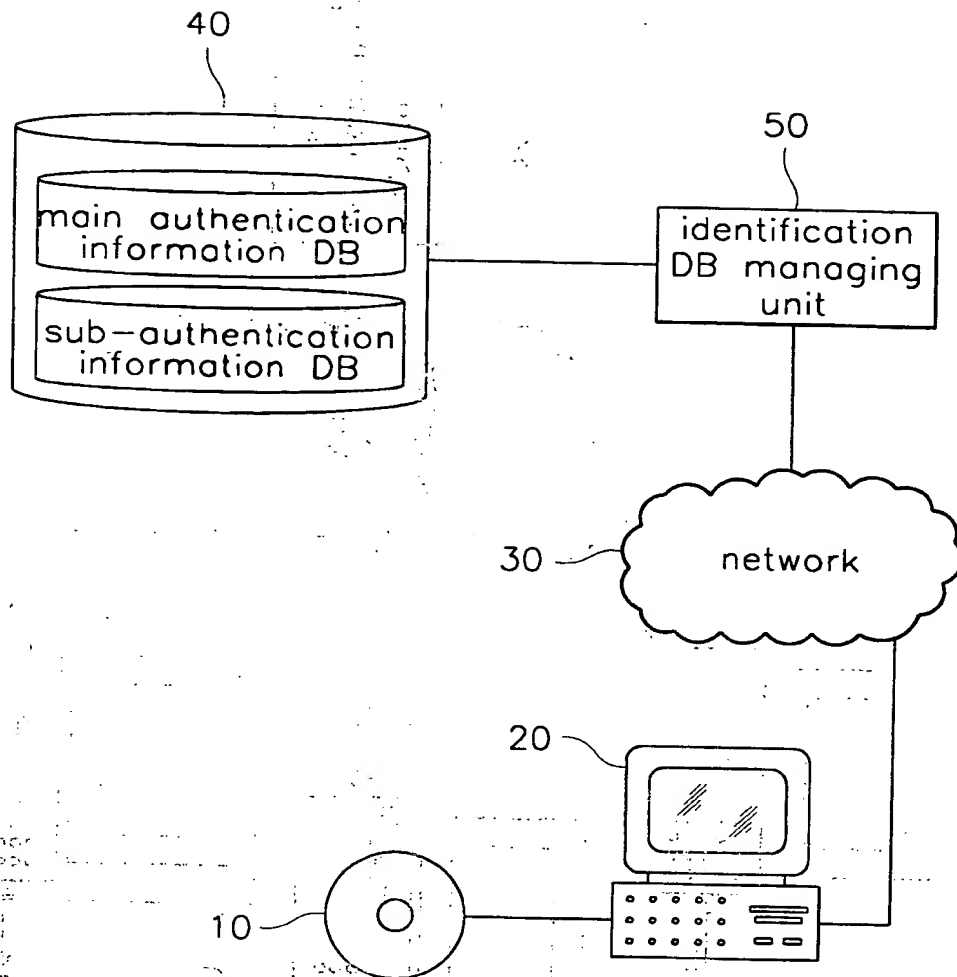
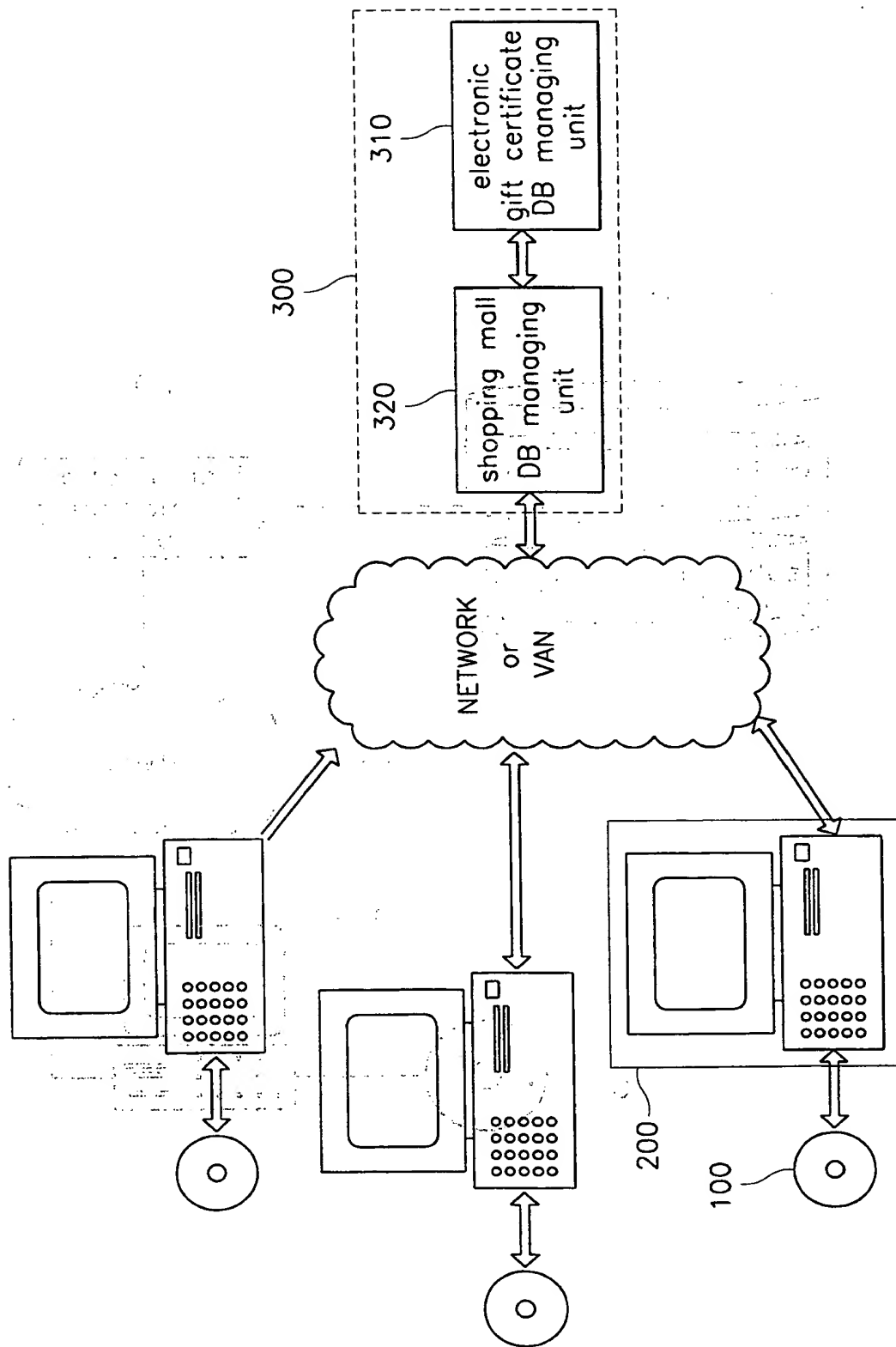
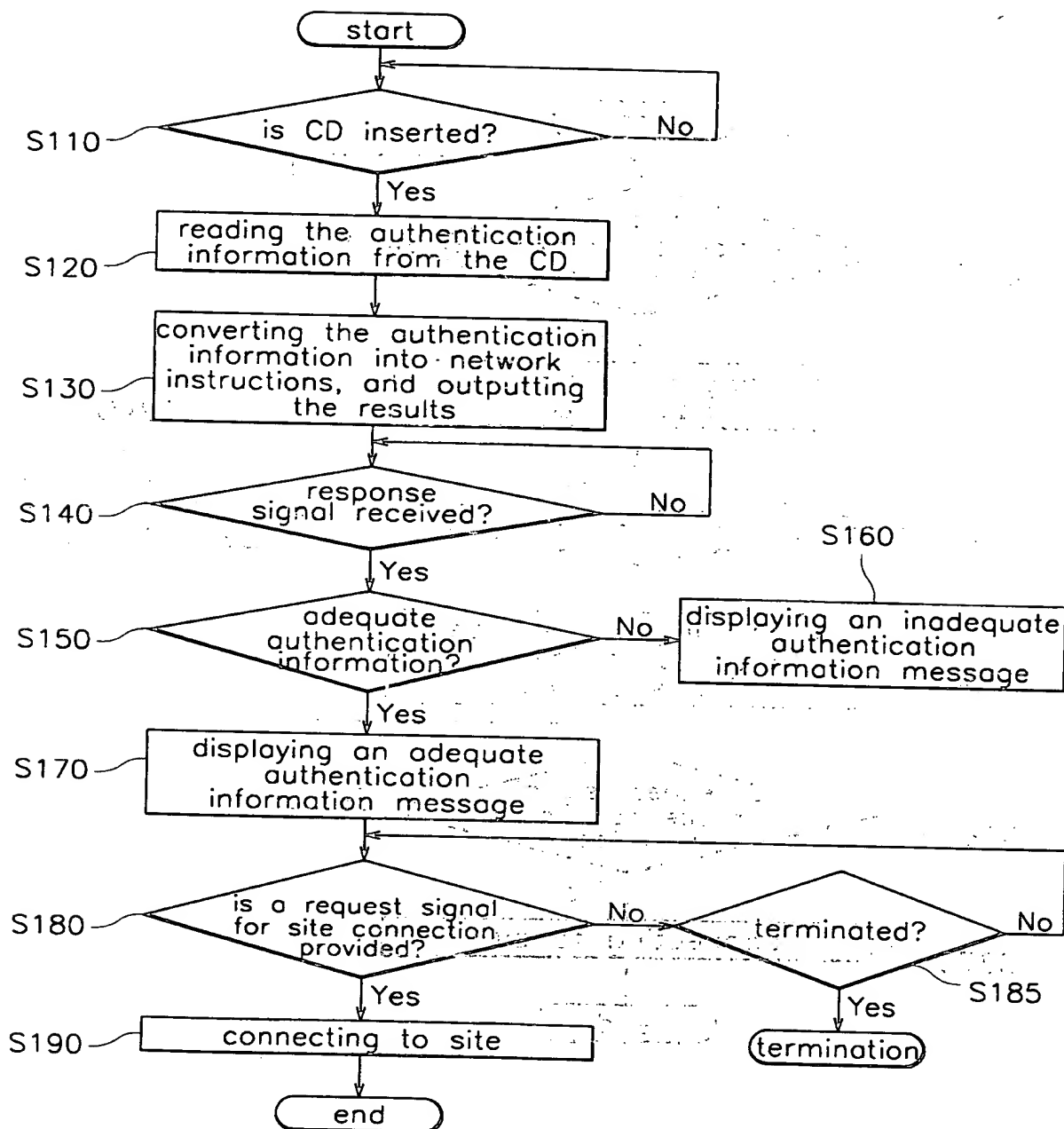


FIG. 3



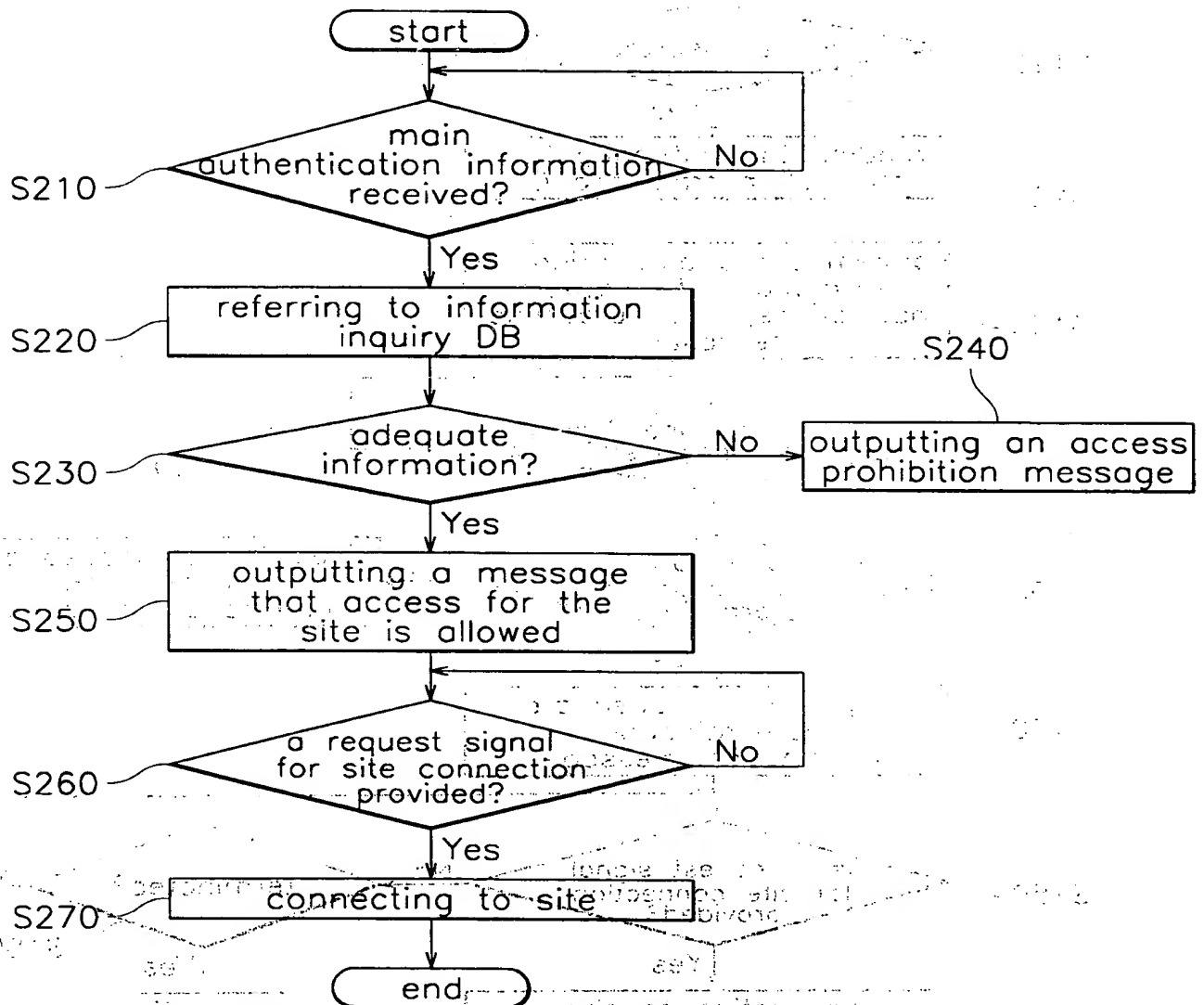
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FIG. 4



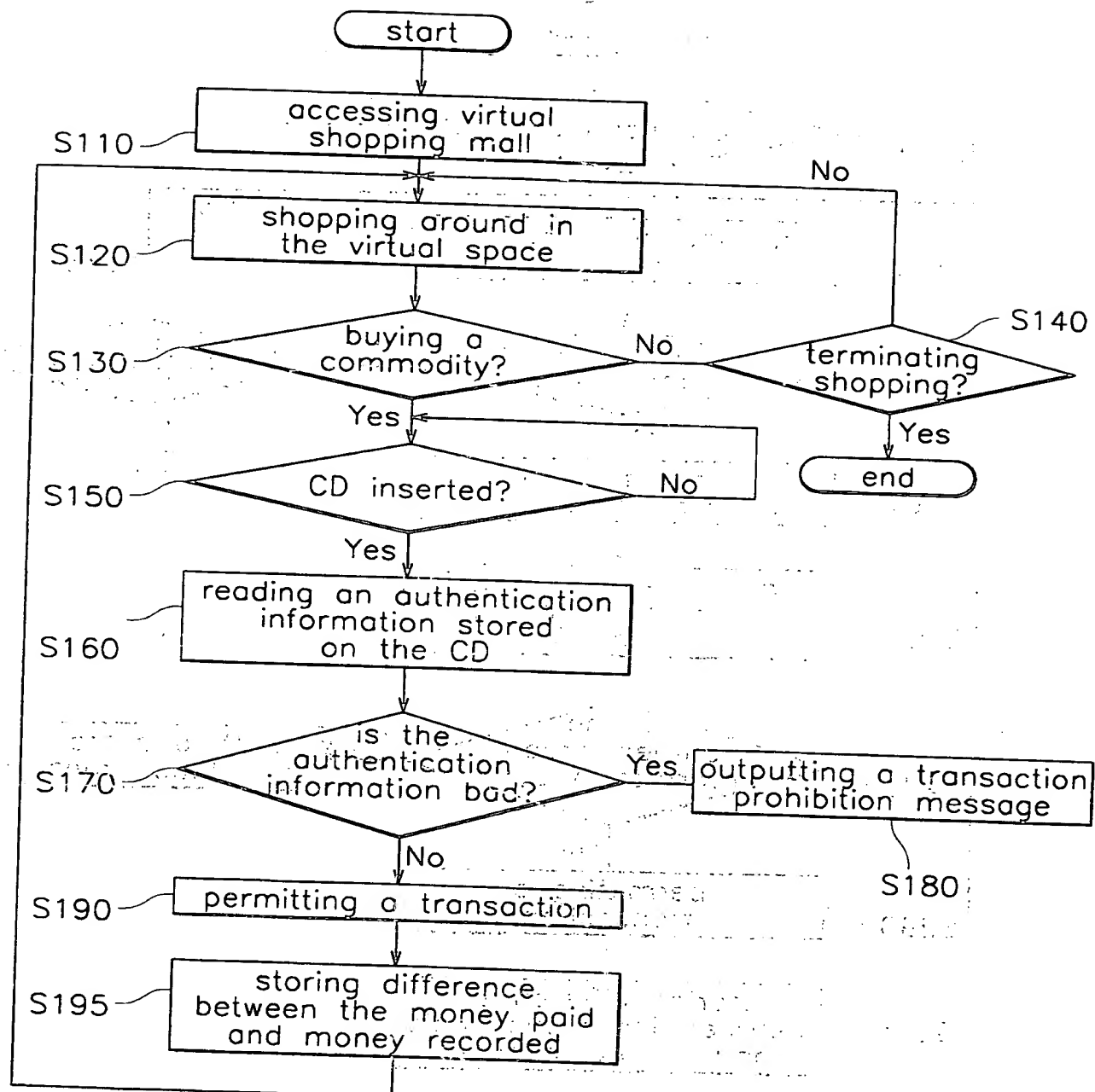
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FIG.5



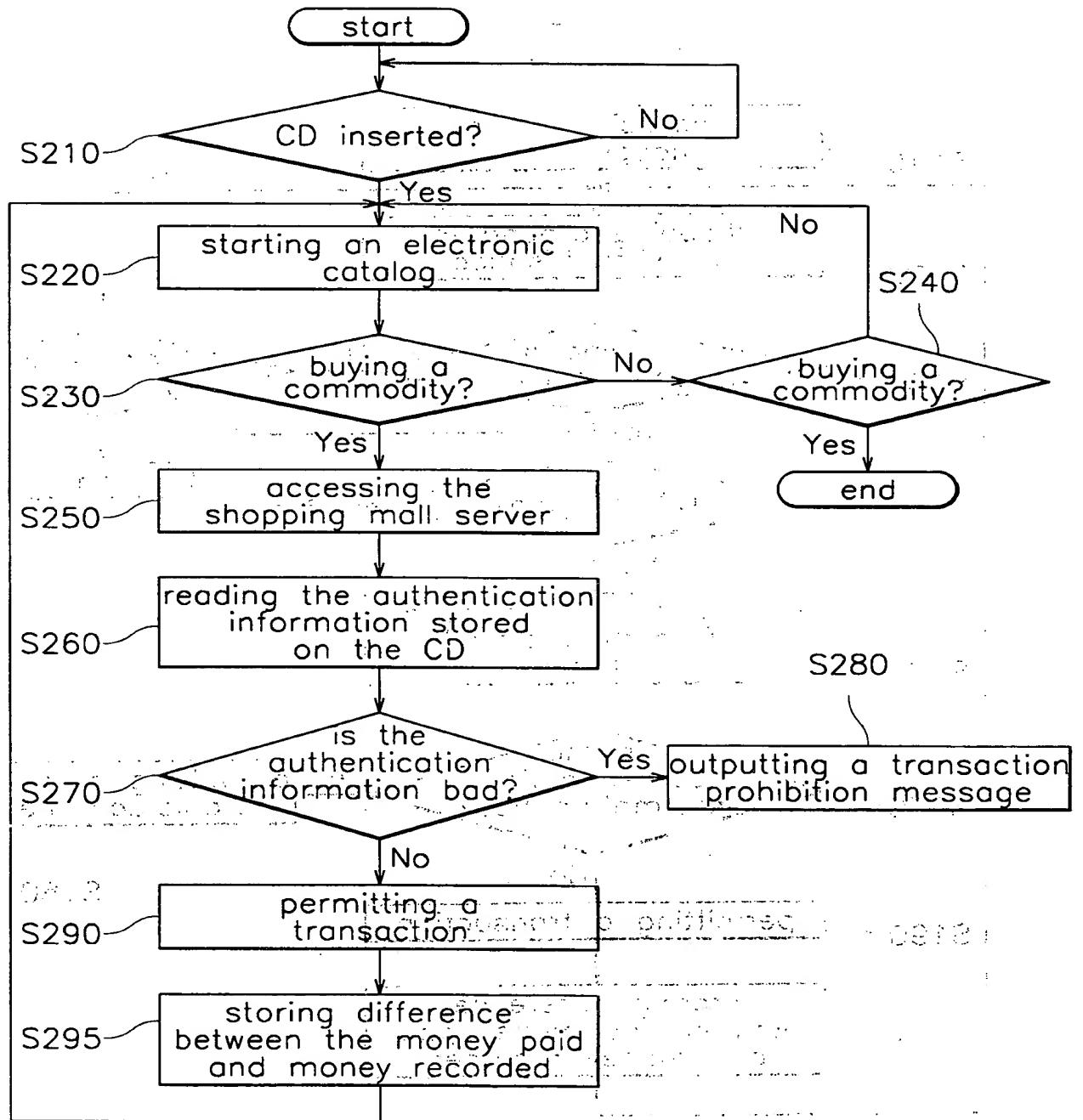
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FIG. 6



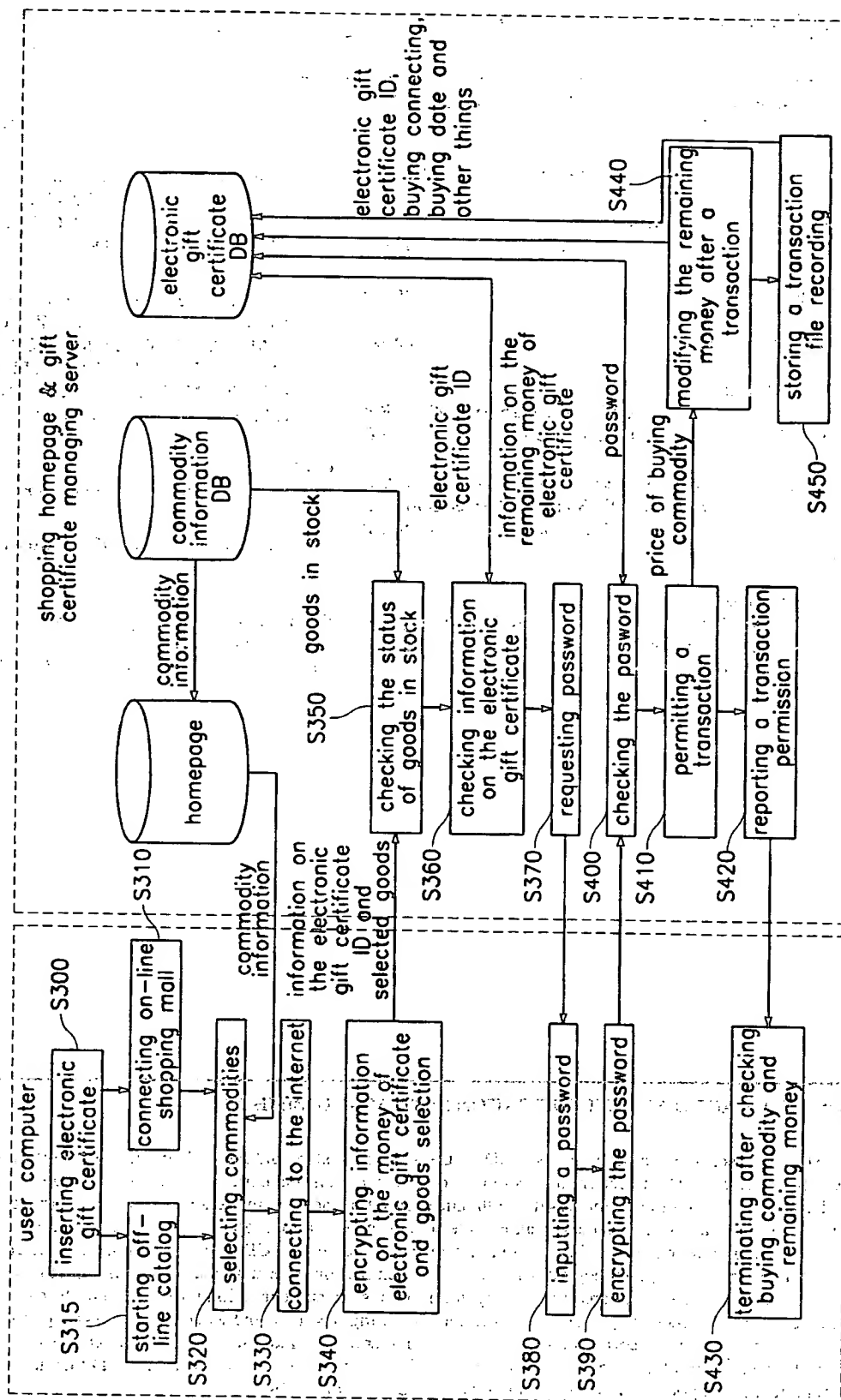
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FIG. 7



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FIG. 8



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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **COMPACT DISC AUTHENTICATION SYSTEM AND METHOD**

(57) Abstract: Disclosed is a compact disc (CD) authentication system and method, and an electronic commerce (EC) system and paying method. In the CD authentication system, a computer outputs authentication information stored on the CD, and an identification database managing unit compares the authentication information with the authentication information stored on the CD, and when they are identical, permits access to an EC site so that manual typing operation of needed information is reduced. In the CD EC system, the computer outputs authentication information stored on the CD to request for an EC, and an electronic gift certificate database managing unit stores money information per authentication information and outputs a business permission or prohibition message, and a shopping mall database managing unit provides the authentication information to the electronic gift certificate database managing unit to check the permission of the corresponding business, and when the business is permitted, computes and stores the money information on the corresponding commodity in response to request for a purchase, and permits a corresponding business according to the money information. Accordingly, the EC can be performed by installing a CD that has authentication information into a multimedia computer without installing additional device for the EC.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 99/00672

CLASSIFICATION OF SUBJECT MATTER

IPC⁷: G 06 F 17/60, 13/00; H 04 L 9/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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IPC⁷: G 06 F, H 04 L

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/19819 A1 (INTELISYS ELECTRONIC COMMERCE, LLC) 22 April 1999 (22.04.99) abstract; page 1, lines 1-5; page 10, line 11 - page 13, line 12; fig. 1-3.	1,3,11,13,16
A	US 5903721 A (SIXTUS) 11 May 1999 (11.05.99) column 1, lines 5-25; column 3, line 28 - column 5, line 7.	1,3,11,13,16
A	WO 98/37675 A1 (VERIFONE, INC) 27 August 1998 (27.08.98) page 1, lines 5-11; page 25, line 27 - page 35, line 21; fig. 1-6. ----	1,3,8,9,11,13,16

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INTERNATIONAL SEARCH REPORT

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		EP A2 1008022	14-06-2000
		NO A0 994428	13-09-1999
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		US A 5996076	30-11-1999
WO A1 9919819	22-04-1999	AU A1 89013/98	03-05-1999
		EP A1 996917	03-05-2000
		US A 5970475	19-10-1999

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